



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/553,581	01/30/2006	Franz Kaspar	14261	1491
Orum & Roth Suite 1616 53 West Jackson Boulevard Chicago, IL 60604-3750			EXAMINER SAVAGE, JASON L	
			ART UNIT 1784	PAPER NUMBER
			MAIL DATE 10/11/2011	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

**Office Action Summary****Application No.**

10/553,581

**Applicant(s)**

KASPAR ET AL.

**Examiner**

JASON SAVAGE

**Art Unit**

1784

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 29 August 2011.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on \_\_\_\_; the restriction requirement and election have been incorporated into this action.
- 4) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 5) ☒ Claim(s) 1,5,7,10-14 and 17-19 is/are pending in the application.
- 5a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 6) ☒ Claim(s) \_\_\_\_ is/are allowed.
- 7) ☒ Claim(s) 1,5,7,10-14 and 17-19 is/are rejected.
- 8) ☒ Claim(s) 18 is/are objected to.
- 9) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 10) ☐ The specification is objected to by the Examiner.
- 11) ☒ The drawing(s) filed on 29 August 2011 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 12) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 8-29-11 has been entered.

### ***Drawings***

The drawings were received on 8-29-11. These drawings are approved.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 5, 7, 10, 11, 12 and 18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 5, line 6 recites "in core" which does not make sense in the claim context. As such, the phrase is considered to read "made of a material more precious than...".

Claim 5, lines 8 and 17 both recite coating thicknesses having the same range. One of the ranges could be removed to clarify and streamline the claim language.

Claim 5 lines 9-12, the limitation that the addition forming a precipitation alloy by way of a build-up in fine distribution in grain boundaries of the silver, and which has a higher melting point than silver" is awkward. Appropriate clarification would be appreciated.

Claims 10 -12 recites broader ranges followed by narrower range which makes the claim indefinite since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. See MPEP § 2173.05(c). Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949).

Regarding claim 10, the claim has two different statements for the coating thickness. The first that the thickness is at least 0.3 such as in line 8 and again that the coating thickness is 0.5 to 5  $\mu\text{m}$  in the last line of the claim.

Regarding claim 12, the disclosures that the main body material may be a "CuNiSi(X) alloy: (such as) C7025, C7026" renders the claim indefinite since it is not

clear if alternate CuNiSi(X) alloys other than the two explicitly recited are suitable. The same issue exists with the alloys for (b), (c), (d), (e) which recites "for example", (f), (g), (h), (i), (j), (k).

Regarding claim 18, line 2 of the claim recites "the addition". Due to the amendment to claim 1, there is no antecedent basis for the cited claim language.

Appropriate correction or clarification is required.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 10-14 and 17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cheng et al (US 5,679,471) in view of Koichi (JP 59-153852 DWPI English Abstract).

Cheng teaches electrical connectors having a silver-based coating exhibiting prolonged fretting wear durability, low contact resistance, low coefficient of friction and high thermal stability (col. 1, ln. 5-23, col. 3, ln. 14-21). Cheng further teaches the silver-based coating has a thickness between 0.1-8  $\mu\text{m}$  and is deposited by vapor deposition (col. 4, ln. 26-35). Cheng further teaches that by adding an addition such as nickel to

the silver based coating a non-alloyed coating composition formed wherein phases rich in nickel are dispersed in a silver phase (col. 1, ln. 1-25). Cheng teaches a preferred coating thickness of 0.5  $\mu\text{m}$  and thus meets the claim limitation (col. 4, ln. 26-36). Cheng further discloses that the coated contact may further include a diffusion barrier layer such as nickel (col. 7, ln. 47-56).

Cheng is silent as to the addition being the specific materials claimed such as tungsten or molybdenum in the amount claimed. Koichi teaches an Ag-Ni electrical contact material having improved consumption and welding resistance due to the inclusion of between 0.05-5.0 wt % of fine particles of materials such as Mo or W. It would have been obvious to have added 0.05-5 wt% of a known additive such as W or Mo as taught by Koichi to the Ag-Ni coating material of Cheng with a reasonable expectation of success of forming a contact having improved hardness and consumption and welding resistance.

Regarding the limitation that the W or Mo are present in fine distribution in grain boundaries of the silver, Koichi teaches materials are present as fine particles and thus is considered to meet the claim limitation.

Regarding claim 12, Cheng teaches that copper alloys and stainless steel are conventionally employed as the main body materials (col. 4, ln. 37-49) but is silent as to the specific alloys such as those claimed. However, the recited alloys are conventional copper alloys employed in electrical applications. It would have been obvious to one of ordinary skill in the art to have selected any known copper or stainless steel alloy known

to be suitable for use as connector substrate in the connectors of Cheng as modified by Koichi with a reasonable expectation of success.

Regarding claims 13-14, Cheng teaches a connector which would be considered as much of a strip which is pre-punched as the article claimed by Applicant (col. 53-65).

Regarding claims 17, Cheng teaches forming an intermediate layer of nickel (col. 7, ln. 48-56).

Regarding claim 19, the contacts of Cheng are plug-in connecting contacts (Figure 1).

### ***Allowable Subject Matter***

Claims 5 and 7 are free of the prior art but have been rejected for indefiniteness above.

Claim 18 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

### ***Response to Arguments***

Applicant's arguments filed 8-29-11 have been considered but are not persuasive.

Applicant argues that Cheng and Koichi do not meet the limitation of the tungsten or molybdenum being dispersed in a fine distribution in grain boundaries of the silver. Applicant further recites that Cheng and Koichi are not combinable asserting Cheng

teaches very small grains and in contrast, Koichi teaches a material with very large grains. While it is noted that the grains of Koichi are clearly larger in size than those recited by Cheng, it is well settled that the test of obviousness is not whether the features of one reference can be bodily incorporated into the structure of another and proper inquiry should not be limited to the specific structure shown by the references, but should be into the concepts fairly contained therein, and the overriding question to be determined is whether those concepts would suggest to one of ordinary skill in the art the modifications called for by the claims. In re Van Beckum, 169 USPQ 47 (CCPA 1971); In re Bozek, 163 USPQ 545 (CCPA 1969); In re Richman, 165 USPQ 509 (CCPA 1970); In re Henley, 112 USPQ 56 (CCPA 1956); In re Sneed, 218 USPQ 385 (Fed. Cir. 1983).

In response to the issue whether the reference is nonanalogous art, it has been held that the determination that a reference is from a nonanalogous art is twofold. First, one decides if the reference is within the field of the inventor's endeavor. If it is not, one proceeds to determine whether the reference is reasonably pertinent to the particular problem with which the inventor was involved, In re Wood, 202 USPQ 171, 174. In the instant case, both Cheng and Koichi are generally drawn to Ag-Ni coatings containing fine particles/grains for electrical contacts. As such, it would have been obvious to one of ordinary skill in the art to have modified the invention of Cheng such as by including fine particles of an additional material such as Mo or W with a reasonable expectation of success of forming a contact having improved hardness and consumption and welding resistance.



Applicant also recites that Cheng discloses an electro deposited film whereas Koichi discloses bulk material. Applicant also states that it is not possible to deposit molybdenum and tungsten in pure form by electro deposition. However, Cheng is not drawn to an electro deposited film, and instead is drawn to a vapor deposited film (col. 4, ln. 26-35). As such, Applicant's assertion that Mo and W cannot be deposited by electrodeposition is moot in light of the teachings of the reference.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JASON SAVAGE whose telephone number is (571)272-1542. The examiner can normally be reached on M-F 7-4.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, McNeil Jennifer can be reached on 571-272-1540. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jason Savage/  
Examiner  
9-28-11

/Jennifer C McNeil/  
Supervisory Patent Examiner, Art Unit 1784